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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 10/024,243 | 12/21/2001 | Yoshiro Shiokawa | 111522 | 3419 |
| 25944 | 7590 | 12/19/2003 | | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | EXAMINER JOHNSTON, PHILLIP A | |
| | | | ART UNIT 2881 | PAPER NUMBER |

DATE MAILED: 12/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/024,243 | Applicant(s) SHIOKAWA ET AL. | |
| | Examiner Phillip A Johnston | Art Unit 2881 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☒ Claim(s) 1-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>10-29</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Examiners Response to Arguments

1. The amendment filed 10-06-2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states, that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure is as follows: “ third body gas”.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claims Rejection – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-10 as amended are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,566,652 to Kato, in view of Kato, U.S. Patent No. 6,008,490 and in further view of Sato, U.S. Patent No. 5,194,739, for the reasons given in First Office Action (Paper No. 4).

4. Applicant's arguments filed 10-06-2003 have been fully considered but they are not persuasive.

Arguments 1 and 2.

Applicant states that " None of the applied art teaches, discloses or suggests ion attachment mass spectrometry for attaching positively charged metal ions emitted from an ion emitter to a gas to be detected, as claimed in Claim 1 and similarly claimed in claims 2-8."

Applicant also states that " In Kato, the mass spectrometry has no ion emitter 18 in the ion source."

The applicant is respectfully directed to Kato (652), Column 5, line 39-67, which states; In the atmospheric pressure ion source 7, a bath gas to regularize flow of the gas in the atmospheric pressure ion source 7, and to prevent contamination inside the cover case 8, and a counter gas which promotes evaporation of the nebulized droplets, are passed, according to necessity. For these gases, needle valves control the quantity of the gas flow independently and respective independent stop valves for switching the flows on/off are provided.

A direct current high voltage of about 3 to 6 kV supplied from a high voltage power supply (not shown in the figure) is applied to a tip edge of the nebulizer probe 4. The solution is nebulized from the tip of the probe 4 into the atmosphere of the atmospheric pressure ion source 7 as fine droplets 6 respectively having charges due to the high electric field generated in the tip neighborhood of the probe 4 by this high

voltage and a nitrogen gas for nebulization. The fine droplets 6 having charges collide with the nebulization gas molecules while flying in the atmosphere so that solvent at the surface of the droplet is vaporized. Therefore, the sample ions contained in the droplets finally are expelled (emitted) into the atmosphere in the atmospheric pressure ion source 7. The ions which are generated, enter into the high vacuum part 16 evacuated by the vacuum pump 22 as an ion beam 17, from the aperture 11 for sampling the ions, through the intermediate pressure chamber 12 evacuated by the vacuum pump 23 and the aperture 14. The ions travel to the mass spectrometer 15, are mass-analyzed there, and are detected by the detector 18 so as to provide a mass spectrum or a mass chromatogram using the data processor 19.

Also in Sato (739) Column 7, line 22-25, which states; A liquid metal ion source which can produce cesium ions stably for a long time in the form of a beam focussed to a micro-spot. The liquid metal ion source is composed of a reservoir containing a liquid metal, and a needle type emitter passing through the reservoir and having a sharp tip end which protrudes from the reservoir, the liquid metal being composed primarily of a cesium compound containing 0.3-20 atom % of oxygen.

The examiner has interpreted from the Kato (652) and Sato (739) references above that metal droplets are emitted into an ion source in the presence of a high voltage field, which then collide with a sample gas facilitating ion attachment, as recited in the independent Claims 1-8.

Conclusion

5. The Amendment filed on 10-06-2003 under 37 CFR 1.131 has been considered but is ineffective to overcome the Kato (652) and Sato (739) references.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip A Johnston whose telephone number is 305 7022. The examiner can normally be reached on 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 703 308 4116. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9318 for regular communications and 703 872 9319 for After Final communications.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ
December 15, 2003


JOHN R. LEE
SUPERVISOR, PATENT EXAMINER
TECHNICAL CENTER